PHILADELPHIA MEDICAL TIMES.

SATURDAY, NOVEMBER 21, 1874.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON THE USE OF DIGITALIS IN DISEASES OF THE HEART.

No. II.

Delivered at the Philadelphia Hospital

BY H. C. WOOD, JR., M.D.

Reported by Dr. JOHN GUITÉRAS.

AFTER a brief résumé of the previous lecture, Dr. Wood passed on to explain how digitalis does good in the individual valvular lesions. After briefly explaining the distribution of the cardiac cavities and the mechanism of the valves, he took up the consideration of the mitral.

There are only two possible conditions that can affect this valve: one is constriction, and the other insufficiency.

Suppose we consider, first, cases of mitral deficiency. As previously stated, when we administer digitalis we give the ventricle more time to fill up with blood and more force to propel it. But you will tell me that this excess of force is applied to one opening as much as to the other, to the leak as well as to the open mouth of the aorta. This is true; but you must remember that the leak is usually a comparatively small and irregular orifice, so that when the force of propulsion is increased, the resistance of friction increases much faster at the leak—*i.e.*, the small, irregular, partially obstructed opening—than at the large, smooth, aortic mouth; consequently, the greater the force of propulsion, the less blood proportionately is lost through the damaged valve, and the more blood proportionately is forced into the aorta.

In mitral stenosis or constriction, during diastole the ventricle only fills partially with blood; because the opening through which the blood comes is narrowed, and because the time allotted for the purpose is shortened rather than increased, owing to the irritated state and rapid action of the viscus. Now, digitalis lengthens this period of diastole, and if the orifice is narrowed by one-half the drug may give the ventricle double the time, so that it may fill up and be able to contract with increased force upon a good volume of blood. Instead of a hundred abortive contractions of an empty ventricle, there will be a less number, seventy, or sixty, or even fifty strong contractions of a ventricle full of blood; of course the gain is enormous.

It is unnecessary to follow out the same reasoning for the right auriculo-ventricular valves, because the physical conditions are identical, and because primary disease of the right side is a great rarity.

We will pass, then, to speak about the two conditions that may affect the aortic opening,—viz., constriction and insufficiency. In aortic constriction we have no leakage, but a constant impediment to the flow of blood from the heart; an impediment which impresses the ventricle chiefly during systole, stimulating it at such times enormously, and probably for this reason almost constantly giving rise to hypertrophy rather than dilatation. Because the hypertrophy is, in these cases, so often fully compensatory, or even excessive, digitalis is generally not indicated, and often has done harm; from this has arisen the notion that digitalis is a dangerous drug in aortic disease of the heart. This is a mistake; it really makes no difference which valve is diseased. The question simply is whether the hypertrophy is excessive, sufficient, or insufficient. There are cases of aortic obstruction in which the hypertrophy is deficient, and in these digitalis is indicated. In aortic regurgitation the leakage does not occur during the period of cardiac activity, but when the heart is at rest, and the blood is thrown back against the semilunar valves by the arterial contraction. Digitalis, by lengthening the diastole, may thus increase the trouble; but yet, even in these cases, when the left ventricle has been so overpowered that it cannot unload itself of the blood that pours in from the two openings, digitalis may give the muscle strength to overcome temporarily the trouble. It is evident, however, that in aortic regurgitation the drug must be used with especial caution.

In the use of digitalis, so far considered, the drug has been given with the idea of affording temporary relief. To show how temporary this relief may be, let me tell you that the case which I showed you at my last lecture is much worse, and that the drug no longer affords the man any relief. To show you how great this relief may be for an instant, even when the patient is *in articulo mortis*, let me read to you some notes furnished by my able resident, Dr. Berens, in regard to a case of mitral and tricuspid disease which recently died in this hospital. The fatal paroxysm, it should be stated, came on rather suddenly. Dr. Berens says,—

On my arrival in the wards, the patient was found sitting up, supported in a chair, completely unconscious, with cyanosed face, labored respiration, pulse weak, intermittent, irregular, and rapid to the last degree. He received immediately ten grains of carbonate of ammonium hypodermically, as he was unable to swallow. In a few moments he revived sufficiently to take some whisky. Pulse now was about 160, with its character unchanged. A hypodermic injection of digitalin, gr. $\frac{1}{25}$, was now given. No change being noticeable in twenty minutes, the dose was repeated. Fifteen minutes after this, the pulse began to alter, and in less than five minutes had fallen to 90, and was comparatively quite regular and strong; the respiration changed also, and the man recovered consciousness. After a short time, upon expressing the desire to lie down, he was permitted to return to bed, and soon after lapsed into what seemed a quiet sleep. About an hour after this, the pleural effusion seemed to overcome him; he started up panting and coughing, then fell back, and in less than half an hour expired, evidently killed by the lung-complication, as his heart retained its regularity to a great extent up to the last moment. At the post-mortem an extraordinary amount of valvular degeneration was revealed, there being extreme mitral and tricuspid stenosis and insufficiency. The lungs were œdematous, and the cavity of the thorax filled with serous effusion.

In the earlier stages of cardiac disease, digitalis helps in effecting what may be called a cure. It is a mistake to suppose that the existence of valvular disease necessarily dooms a patient to a short life, or to one of suffering, or even of decided invalidism. If the disease commences before the age of nineteen, it is very apt to terminate fatally before thirty; but if it develops after puberty, the victim may enjoy a comfortable life of many years' duration. I have long had under my care an old lady who was as a child dandled on the knees of General Washington, and who for years was a patient of Dr. Physick, but who yet, at eighty-five, enjoys comparatively good health, although from time immemorial she has suffered with very decided mitral insufficiency.

Nature cures valvular lesion, or rather protects itself against the ill effects of valvular lesion, by compensatory hypertrophy; and the rational aim of treatment is to aid nature in this, and, above all, to prevent that failure of cardiac strength that ends in cardiac dilatation. Digitalis will not only aid in averting dilatation, but will also aid very greatly in the production of hypertrophy.

Dilatation is, no doubt, partly owing to a gradual stretching of the heart-walls during diastole from over-repletion of the cavities; digitalis enables the heart to empty itself, so that there is much less cause for dilatation, and also, by toning the muscular fibres, gives them strength to resist the tendency. To explain the action of the drug in producing hypertrophy, we must refer to the cardiac circulation. The coronary arteries are given off at right angles from the aorta, so that there is little tendency for the blood, just squirting out from the heart as a solid stream not yet broken by contact with the arch of the aorta, to leave the wide-open track and pass into the small coronary arteries; besides, the mouths of these small vessels lie so close to the edges of the semilunar valve that these either close them entirely or else deflect the blood-current from them. More than this, during the systole, every vessel in the heart-wall is forcibly closed, precisely as the sinuses of the uterus are closed when you induce uterine contraction in post-partum hemorrhage. But when the recoil comes, the elasticity of the aorta drives back the blood towards the ventricles, shutting down the semilunar valves, and of necessity forcing the blood into the cardiac vessels. These are now relaxed, so that the vital current enters into every portion of the viscus. During the diastole, then, the arterial blood enters the heart; during the systole the venous blood is squeezed out of it, the muscle becoming so dry and so bloodless that in the lower animals it is often absolutely white.

It is readily seen that when, owing to valvular disease of the heart, the general circulation is failing, the cardiac circulation must suffer most seriously. Although a great number of imperfect cardiac contractions occur, yet a small amount of blood is thrown into the arterial system, making the reflex from the empty aorta a very feeble one. More than this, the action of the heart is so rapid, the diastole so short, that time is not allowed for the arterial blood to enter and nourish the cardiac tissue; and, the systole being also so feeble and incomplete, the venous blood is not thoroughly expelled from the heart-walls; so that there is a diminution of the arterial supply, and an imperfect draining of the venous blood. The cardiac circulation is therefore doubly impaired, and imperfect blood-supply to an overworked organ means defective nutrition and rapid degeneration. Digitalis, by prolonging the diastole, gives time for the cardiac vessels to fill up; by increasing the power of the systole it empties the cardiac veins, and at the same time, by causing more blood to be thrown into the aorta, gives the arterial system more of the vital fluid to contract upon and to propel into the coronary arteries. The effect of the change wrought in the cardiac circulation by digitalis is probably tenfold that achieved in the general system; and therefore, by furnishing nutriment, the drug exerts a most powerful influence in favoring the production of hypertrophy. When the cardiac muscle has already undergone change, digitalis can effect but little: hence the importance of administering the drug with iron and other tonics in the early stages of heart-disease.

But little time can be devoted to-day to the question of the administration of digitalis. Probably the infusion is the best form. If there is much dropsy, the drug may be given in pill form, combined with squill, one grain of each, three times a day. Of the tincture you can give five, ten, fifteen, or twenty drops every four, three, or two hours. In all cases you increase the dose gradually until some effect is attained, but you must do this very carefully, as digitalis is eliminated very slowly from the system; and sometimes, when it has been taken for a long time, a sudden poisonous effect results. Its effects, indeed, are always slow to show themselves, and they also subside very slowly, so that the medicine should be at once withdrawn temporarily when a decided influence is apparent.

Some time ago there was a woman with hydrothorax in our wards who was taking ten or fifteen drops of the tincture three times a day. This was continued for many weeks without any decided effect. One Sunday the pulse was found to have fallen ten beats,—it was then 80. On Monday, the pulse being 70, the digitalis was discontinued. On Tuesday the pulse was 60; on Wednesday it was 50, and on Thursday it was 40. With rest and opium the patient recovered, but for a week afterwards her pulse never went above 50.

I do not want to impress you with the idea that digitalis is a dangerous drug. It has been given in doses of a half to one ounce, without any dangerous symptoms. The tincture, as you know, has been given in large doses—even an ounce—in the treatment of acute alcoholism, and the old school of therapeutists have been at their wits' end to know why it did not kill patients already suffering with the great nervous exhaustion of delirium tremens. They even suggested that the alcohol in the tincture counteracted the depressing action of the drug; but what are a few drops of alcohol to a man who is in the habit of taking over a pint a day? And how could

such small doses of the stimulant counteract the enormous dose of such a powerful sedative as digitalis has been supposed to be? Digitalis in these cases did not kill the patient, gentlemen, because it is not a cardiac sedative, but is a cardiac stimulant.

Do not, therefore, be afraid of digitalis in valvular heart-disease. Use it cautiously but boldly, use it freely but judiciously, and you will find that it deserves even a better title than that "of an opiate for the heart."

ORIGINAL COMMUNICATIONS.

FRACTURE OF THE FRONTAL AND TEMPORAL BONES SUCCESSFULLY TREATED.

BY JOHN FOOTE, M.D.,

Archibald, Pa.

Reported by J. V. SHOEMAKER, M.D.

WEDNESDAY, June 24, 1874, about 7 A.M., while James F., eleven years of age, was playing on the railroad-track, he was struck on the forehead by that part of the locomotive called "the pilot." The doctor was called a few minutes after the accident, and found a wound five inches in length, and about one inch above the superciliary arches of both orbits. The fracture was traced across the os frontis from one temporal bone to the other. The temporal bones themselves were also fractured their entire length. The skull was lifted up half an inch at the external wound. The bleeding was profuse, and portions of the brain were protruding through the entire length of the wound. The pulse was 88, and irregular; the pupils were natural, but consciousness was partially lost. The wound was washed by pouring water on it, which brought away about half an ounce of the brain-material. The external wound was then drawn together in its middle by a suture. Inserting the needle brought a sharp cry of pain from the patient. A sponge saturated with a weak solution of carbolic acid was then nicely packed in the open portion of the wound, and a bandage was applied so as to press the sponge lightly into the wound.

The patient asked for a drink of water, and tried to pull off the bandage. Pulse 88, irregular and full. On removing the bandage, the substance of the brain oozed out. The sponge, on examination, was found to be saturated with blood and brain-substance. Five grains of bromide of potassium and ten drops of tincture of digitalis were given every four hours. Vomiting set in, and about the same time the right eyelid became very much tumefied.

Thursday, 25th, 7 A.M.—Pulse 75, full, and irregular. The middle meningeal artery of the dura mater could be seen beating strongly on the right side. The patient rested well during the night; the vomiting had not recurred. On taking off the bandage, more brain-matter was lost, and the sponge was saturated with blood. During the night and day his breathing was difficult. The face became very much swollen, and the right eye was completely closed. Warm milk and toast-water were ordered for him, and the bromide of potassium and digitalis were continued.

Friday, 26th, 7 A.M.—Pulse 76, and regular; patient had a good night's rest. The pupils were natural; consciousness returned for the first time; he was able to recognize those around him, but could not tell how he had been injured. Tongue slightly coated. Dr. R. Squires, of Scranton, met the doctor in consultation, and advised the continuation of the treatment.

Saturday, 27th, 8 A.M.—Pulse 76, and regular; passed a comfortable and quiet night; on awakening, complained of feeling hungry. He took the substance prepared, and a cup of tea. Absence of pain. The right eye remained closed, and the brain-substance continued to come away in small pieces, but the oozing of blood had ceased; tumefaction had extended to the left side of the face. The bowels were freely moved by citrate of magnesium. The sponge was removed from the wound, which was dressed with lint saturated with a weak solution of carbolic acid.

Sunday, 28th, 8 A.M.—Pulse 80; patient sitting up, taking milk and toast freely. The brain-substance ceased to come away, and that in the wound was of an ashy-gray and light-brown appearance.

Monday, 29th.—Suppuration set in; the wound looked yellow, and granulations were beginning at the left corner. On removing the sutures, adhesive strips were applied over the middle of the wound, and it was again dressed with lint saturated with a solution of carbolic acid. As he became very restless and feverish, full doses of bromide of potassium and digitalis were given. The quieting effect of the bromide could be seen on the branch of the middle meningeal artery of the dura mater half an hour after administering it. Four hours passed before the digitalis began to act and reduced the frequency of the pulse. By means of the bromide and digitalis the pulse was kept below 90. The doses had to be regulated according to the determination of the blood to the brain. The citrate of magnesium was given, and soon caused a free action of the bowels.

Wednesday, July 1.—Pulse 88, full and irregular; tongue clean; bowels torpid; refused to take nourishment. The pupils were dilated; was not able to see with the right eye, and complained of cramps in the right leg. The wound suppurated freely, and was granulating rapidly.

Thursday, July 2.—Much better and brighter. Paralysis of the left side of the face well marked; also loss of vision in the right eye. Wound granulating.

Friday, July 3.—Pulse 80, and full; loose piece of the frontal bone was removed; on the right side there is a large piece of the brain protruding half an inch above the skin, covered with healthy pus.

Thursday, July 9.—The wound has continued to heal. Loose pieces of bone, from one-quarter to one-half and even three-quarters of an inch long, and of different breadths and thicknesses, have been frequently removed. He has regained the sight of the right eye, and the paralysis of the face is gradually disappearing.

Seven weeks from the time of the injury the wound was entirely healed, and he went to work in the coal-mines, perfectly recovered in body and mind.

A CASE OF EARLY MATERNITY (*The Medical Record*, October 15, 1874).—Dr. E. A. Goodridge reports the case of a colored girl who began menstruating shortly after her eleventh birthday, and continued to do so regularly until the month previous to her twelfth birthday, when conception took place. Gestation was completed without the occurrence of any special functional derangement. The head presented in the left occipito-iliac position; labor lasted seven and a half hours. The infant was a female, weighing seven pounds. There was a copious lacteal secretion on the third day, after which the mother continued to supply sufficient nourishment for the sustenance of her child. The mother's age at the time of delivery was twelve years, eight months, and twenty-five days.

NOTES OF HOSPITAL PRACTICE.

JEFFERSON MEDICAL COLLEGE.

CLINIC OF PROF. S. D. GROSS.

FEMORAL ANEURISM.—LIGATION OF EXTERNAL ILIAC.

JAMES L., æt. 34; occupation, that of a warper in a cloth-manufactory.

Gentlemen,—The case which now presents itself for consideration is one of much interest, both from its gravity and comparatively infrequent occurrence at this period of life. This affection is more common in advanced age, and in persons whose employment subjects the lower extremities to severe muscular exertion, producing sudden strain upon the vessels.

This man, in the prime of life, has always enjoyed very good health, and his occupation is one not requiring a great amount of muscular strain or activity. About two months ago, he observed a tumor situated in the groin at its anterior aspect, two inches below Poupart's ligament. He had never received an injury in this locality. The swelling gave him no pain, and produced so slight inconvenience that little attention was paid it, till within the last month it has increased so much that he has now applied for relief. Latterly, he has been losing flesh. The heart's action is weak, and the pulse 68. You observe, in the position before indicated, a tumor, pulsating synchronously with the heart's contraction. Auscultating the tumor, I hear an aneurismal blowing sound. Placing my fingers just below Poupart's ligament, in the line of the femoral artery, and making firm compression, the pulsatory movement and blowing sound are completely arrested; and, on pressure, the tumor almost completely disappears. On the other hand, making compression below the swelling, the tumor is notably enlarged.

There is no difficulty in diagnosing this tumor, it being manifestly an aneurism of the femoral artery. Had we seen the case at an earlier period, the inquiry would arise if it were not a psoas abscess pointing in this locality, a bursa, or an enlarged lymphatic gland, which, probably receiving an impulse from the artery, caused the swelling to simulate aneurism. But the history of the case, the fact that the tumor pulsated from the moment of its development, and a careful examination, promptly set aside the possible existence of any such affections.

You are aware that an aneurism is a tumor occupied by blood, and communicating with an artery either partly or entirely deprived of its integrity.

Aneurisms are distinguished, in reference to the causes producing them, into two kinds,—viz., traumatic and spontaneous aneurism. They are also designated as true and false; the former term being applied to that species of aneurism in which one or more of the arterial walls form a part of the tumor; the latter, on the contrary, one in which all the tunics of the vessel have given way, and the aneurismal sac is formed by the condensed cellular tissue.

Spontaneous aneurism is of more frequent occurrence than the traumatic; it is more common in some arteries than in others, and more males than females are attacked by it. The artery which suffers most frequently is the aorta, throughout its whole extent; and the next in point of liability are the popliteal artery, the femoral, common carotid, subclavian, innominate, axillary, and external iliac. Spontaneous aneurism results from the earthy or atheromatous degeneration of the arteries rendering their walls preternaturally brittle, causing them to yield more readily to the impulse of the blood or severe muscular action.

The case before us is doubtless a true aneurism of the sacciform variety, the middle and internal coats having been ruptured, and the sac formed by the dilated external tunic. The aneurismal thrill is produced by the passage of blood from and to the artery, through the orifice communicating between the sac and vessel; and the thrill, which is here not very marked, is due to the comparatively large size of the aperture.

The effect and termination of aneurism pursuing its course without the intervention of art are interesting and remarkable. The effects produced upon the surrounding parts are essentially mechanical in character, varying with the size and situation of the tumor. The functional disturbance is also in proportion to the amount and importance of the structure involved. It is not less remarkable than gratifying that, although the prognosis of aneurism is so extremely unfavorable, nevertheless a spontaneous cure is occasionally effected; thus, cases bidding defiance alike to medical and surgical skill eventuate in complete recovery. This, however, is unfortunately the exception, and not the law, the aneurism increasing progressively until it finally bursts, and terminates the life of the individual.

The treatment of external aneurisms, or those properly belonging to the domain of surgery, dates back to the time of Celsus. But the lapse of time from that period to the present day has marked great and necessary modifications in the treatment of this class of maladies. The method of treatment at that time consisted in laying open the tumor, turning out its contents, and applying the hot iron to the extremities of the severed artery, to seal up its mouth. From this treatment almost every patient perished from secondary hemorrhage.

Subsequent to this, we find other operations not much more fortunate in their results, until Mr. John Hunter first introduced the operation of ligating the artery at the cardiac side of the tumor, the results of which were much more gratifying than any of the previously employed measures. This operation was effected by casting a ligature about the vessel sufficiently tight to completely occlude its calibre, and at a distance on the cardiac side of the tumor to reach beyond the portions involved in the degeneration. After this, a teacher in the old School of Surgery, at Paris, suggested ligation on the distal side of the tumor in cases in which, on account of the position of the aneurism, Hunter's operation was impracticable.

Among other methods which have been employed and are deserving of consideration, are forced flexion and compression. The former mode of treatment has been attended with very good results, and in one case in which I employed it it was completely successful. The latter method was not very successful as first employed, but, having undergone some modifications by Dublin surgeons, compression by mechanical appliances now ranks among our resources of treatment. Digital compression, first proposed by a surgeon at Padua, is a mode of treatment which has not received as much attention as it deserves. Statistics bear very favorable records from the employment of digital compression, and some time ago complete solidification of the contents of the sac of a large aneurism of the upper third of the femoral artery was effected in forty-six hours by digital compression alone. In this case I propose to adopt either ligation by Hunter's method, or forced flexion. This consideration will be reserved until the next clinic, when the decision will be acted upon.

Gentlemen,—Since this patient was last before us, to arrive at the best mode of procedure for his relief forced flexion was temporarily resorted to, but it was productive of so much pain that ligation was considered to be the better method, and to-day I purpose performing the operation before you. The high situa-

tion of the aneurism will render it necessary to ligate the external iliac artery, in order to accomplish the desired end.

This operation consists in making a curvilinear incision, with the convexity downward and outward, commencing from an inch to an inch and a half above Poupart's ligament, just outside the external abdominal ring, carrying it upwards on a level with the anterior superior spinous process of the ilium, and about two inches to its inner side. The first cut extends through skin and superficial fascia; and if any small superficial arteries are severed, they are secured before any further procedure.

By this incision the aponeurosis of the external oblique muscle is laid bare, and is divided upon the grooved director. Beneath this in order come the internal oblique and transverse muscles, which are divided, and finally the transverse fascia is exposed, being recognizable by its whitish opaque appearance. A small hole is cautiously made in this membrane, which is slit open to the extent of the other incisions. The next procedure, and one of the most delicate, is to separate the peritoneum from its attachment in the iliac fossa. This having been accomplished, the iliac artery will be found pulsating at the bottom of the wound, with the iliac vein behind it above, and on the inside below; while on its outer side, and on a somewhat lower plane, lies the anterior femoral nerve. Care must be taken not to include either of those structures in the ligature. The sheath of the artery being cautiously penetrated, the aneurism-needle, armed with a ligature, is gradually passed around the vessel from within outwards, and firmly tied. The wound is now to be brought together, and this should be done by introducing the needle down close to the peritoneum, or, what is better, by bringing the different structures together and tacking them separately; this precaution being taken to insure union between the parts, and thus obviate the liability to hernia when the patient begins to walk about. The after-treatment requires the patient to be put carefully in bed and placed in such a position as to relax the parts, and the limb from which the supply of blood has been cut off to be kept warm.

An anodyne should be given, and the bowels locked up for the space of several days, and when moved only the mildest measures must be adopted. The patient is now under the influence of an anæsthetic, and I shall operate in the manner just described. The bowels were emptied of their contents just previous to coming into the room, which adds to the facility and safety of the operation. I have divided successively the superimposed structures, and detached the peritoneum from its connections, and the artery is plainly felt at the bottom of the wound. A silk ligature, well waxed, is now passed around the vessel and tied with sufficient firmness; and you observe that the tumor immediately ceases its pulsations. The integumental and muscular structures are accurately approximated by sutures. An anodyne will be given, the bowels locked up, the temperature of the apartment regulated, and light diet with cooling drinks ordered; the supply of blood being cut off by the external iliac, the collateral circulation will be established mainly through the anastomosing branches of the gluteal, sciatic, obturator, and pudic arteries, with the circumflex and deep femoral branches.

It is four days since ligation of the external iliac was performed, and the patient is doing well in all respects. There has been but slight change in temperature, no shock to the system, he has slept well, appetite is good, and the pulse from seventy-three to seventy-four. The bowels are still locked up, and will be kept so for some time yet. The dressing has been changed, simply applying lint, saturated with olive-oil. There is no suppuration, and the wound has united by adhesive inflammation. The ligature will probably come away in ten to twelve days, dependent upon circumstances. He has been taking gr. ii quiniæ, gtt. xx tincturæ ferri chloridi, four times daily, and gr. iv opii once a day, with tincturæ aconiti radicis, gtt. iv four times a day.

Three weeks have elapsed since the operation, and the patient continues to progress favorably. The bowels were not moved for fourteen days, from which, however, he did not suffer in the least. He has now one movement daily. The wound is all healed, except the part embraced by the ligature, which is still retained, no traction having been made upon it.

It has been five weeks since the operation. The ligature came away this morning. In the past fortnight there was some swelling and elevation of temperature in the tumor, and fears were entertained that the clot was undergoing softening. The aspirator was introduced to draw off any fluid that might be present, but little was found. After this, a small opening appeared, from which was discharged for a few days a small amount of grumous blood admixed with pus.

The danger is now past, although for a time secondary hemorrhage was feared. The ligature, detached by ulcerative absorption, came away itself, gentle traction having been made. He is now taking no medicine.

Five weeks and four days have elapsed since the operation, and to-day the patient will be sent home. The tumor has completely disappeared. The wound in the abdomen is healed, except a small spot of granulation at its most dependent portion. He must remain quiet for ten days after his removal home, when he may commence to walk about.

ST. MARY'S HOSPITAL.

SERVICE OF DR. J. EWING MEARS.

Reported by H. D. HEINITSH.

GUNSHOT WOUND OF THE FORE-ARM, INVOLVING THE ULNAR ARTERY AND NERVE.

SEPT. 15.—J. D., æt. 20, was admitted to the surgical wards of the hospital, suffering from an extensive lacerated wound of the ulnar surface of the forearm, caused by a charge of reed-bird shot. At the time of the receipt of the accident the patient was attempting to draw his gun from beneath the seat of the boat in which he was hunting, the muzzle being directed towards his body. In this effort the hammer of the gun was caught by the seat, and the weapon was discharged, the load—one ounce and a half of reed-bird shot—striking the anterior and lateral surface of the left forearm in the upper ulnar region, at that point where the ulnar artery is covered by the superficial flexor muscles. Profuse hemorrhage occurred immediately, but was checked by the application of the subsulphate of iron, made by the physician called.

On his admission to the hospital the wound was carefully examined by Dr. Eaton, the resident physician on duty in the surgical wards, who found a slight oozing from the wound. A compress and bandage were applied, and the arm was placed in an elevated position.

On making an examination the day following, the hemorrhage was found to be effectually checked; the wound was quite extensive, measuring eight inches in the long diameter and four in the short diameter. The integument was as cleanly removed as if excised by a sharp cutting-instrument; no shreds or portions were found attached; the border was sharply defined in the

entire circumference of the wound. The adjacent surface was blackened by the burnt powder, and the surface of the wound was covered with coagulated blood and the Monsel's salt. No pulsation could be detected in the ulnar artery. The fore-arm was greatly swollen, and there was a slight erythematous blush present. The entire fore-arm was enveloped in a poultice of flax-seed meal and yeast, the sound integument having been painted with solution of iodine and alcohol in equal portions. A saline purge was administered, and good diet prescribed. In two days the surface of the wound was quite completely cleaned by the action of the poultice, and the erythematous blush had disappeared. On examination, it was found that a portion of the charge had entered the tissues at a point corresponding to the upper third of the ulna, where the superficial flexor muscles pass across and down the fore-arm from their point of origin,—the internal condyle of the humerus. The cavity made by the charge was filled with wadding and a quantity of reed-bird shot. A probe was introduced, and it was found that the bone had not been injured. The distal portions of the severed ulnar artery and nerve were seen in the wound. The proximal portions could not be seen, and it was not thought advisable to make any extended search for them. It was estimated that three to four inches of the artery and nerve had been destroyed.

An examination to test the area of loss of sensation was made, and it was found to correspond to the surface supplied by the ulnar nerve. There was also complete flexion of the little finger, with partial flexion of the ring-finger.

In the course of a few days the poultice was discontinued, and the wound was dressed with carbolized oil. Under this dressing granulations sprang up, and the reparative process progressed rapidly.

Dr. Keen hastened this process, after taking charge of the wards, October 1, by skin-grafting. Out of a number of graftings two became attached, forming small islets.

October 18.—The wound has contracted in size, now measuring seven inches in length and three and one-half in breadth. The index- and middle fingers are somewhat flexed by the adhesions formed between the muscles of the flexor group. The area of loss of sensation still remains as at first described. The patient, after his discharge from the hospital, was placed under the care of Dr. S. Weir Mitchell, with a view to the accurate and careful study of the conditions following the nerve-lesion.

LACERATED WOUND OF THE LEG, PRODUCED BY WADDING FROM A SMALL CANNON.

July 4, 1874.—James M., æt. 40, was admitted to the Hospital for wound of the leg, produced in the following manner. While crossing the street, a small cannon, eighteen inches in length, one and a half inches in bore, was fired, at a distance of forty feet, in the direction of the patient; the wadding, which consisted of paper, striking the left leg of the patient midway between the knee-joint and ankle, on the outer side. The wound produced was three and a half inches long, two inches wide, and extended in depth to the inter-osseous membrane. The extensor longus digitorum muscle, with the tibialis anticus, were lacerated, together with the soft parts in immediate relation. This was the condition and extent of the wound when the patient was admitted. On examining the wound, it was found to contain a foreign substance, which, being removed by Dr. Eaton, the resident physician, proved to be the wadding with which the cannon was loaded; a small piece of the patient's pantaloons was also found, which had been forced into the wound. All foreign substances being removed and the parts cleansed, a poultice was applied, and was renewed twice daily. Some sloughing occurred, accompanied by a fetid, sanguinolent discharge, which became diminished in quantity and less offensive on the application of carbolized oil,—one drachm to six of oil. As the sloughing occurred, the portions of tissue were removed. In a few days, granulations appeared, forming very rapidly, and the wound was soon healed.

The case is interesting because of the amount of injury done to the parts by the wadding at the distance from the patient at which the cannon was fired. The mass, when dried, weighed one hundred and eight grains.

TRANSLATIONS.

HEMORRHAGIC LARYNGITIS (Dr. A. Böcker: *Berlin. Klin. Wochenschrift*, No. 15, 1874).—In the first of the two cases of this affection which have recently been under the observation of Dr. B., the patient was a servant-girl aged 23 years, who had been affected with a cough for two weeks, and had, during the eight days prior to her admission, entirely lost her voice. At the same time she became affected with shortness of breath, and her sputa became tinged with blood. An examination of the thorax revealed nothing abnormal, but the laryngoscope showed that the mucous membrane of the entire larynx was intensely red and swollen, while the vocal cords were covered with coagula and streaks of blood, so that their mucous membrane could scarcely be distinguished. When the respirations were of moderate frequency and depth, nothing abnormal was noticed; but if the breathing was at all forced, a whistling sound was produced by the swelling of the mucous membrane. The diagnosis of acute laryngitis, with effusion of blood upon the free surface of the mucous membrane, was made. In this condition of the larynx, there could be no question of active treatment by cauterization with the nitrate of silver, as there would be too great risk of increasing the irritation and inducing still more hemorrhage; and inhalations of a solution of common salt to which laudanum had been added were ordered. During the first few days after admission the sputa were still tinged with blood, but a rapid improvement took place, and the girl was soon discharged from the hospital and treated as an out-patient. A year later, she again presented herself with symptoms of acute laryngitis, but of less intense character and unaccompanied by hemorrhage. Dr. Böcker thinks that in the treatment of such cases care should be taken not to increase the swelling by any irritative measures, and that when favorable results have followed cauterization it has been in spite and not in consequence of it.

In the second case the patient was a man aged 52, who stated that he had always enjoyed good health and had not suffered from hoarseness. Five weeks previously, he had experienced tickling and pricking sensations in the larynx, but had had no cough. After this condition, however, had continued for some time, cough and hoarseness set in, and the patient found himself compelled to seek medical aid. By a laryngoscopic examination, it was found that there was an anæmic condition of the mucous membrane of the pharynx and larynx, and that at the junction of the vocal cords with the posterior wall of the larynx there were upon both sides ulcerations, which were surrounded by reddened and swollen mucous membrane. These ulcers were cauterized three times with a solution of the nitrate of silver, but, as no improvement was seen, the solid stick was applied to the ulcer upon the left side. This operation was followed by moderate coughing, which,

however, did not last long, and upon examination the action of the caustic upon the ulcerated surface was distinctly seen. Soon afterwards, the patient, while in the street, was attacked by a spell of coughing, which was so severe that he was compelled to stand still. The cough was very unpleasant and painful, and was accompanied by a burning sensation in the larynx. On the next day the cough had vanished, but the voice was harsh and almost gone, and there was some difficulty of breathing. Four days after the cauterization, the larynx was examined, and it was found that there was a marked redness in the vicinity of the ulceration, while the rest of the laryngeal mucous membrane was pale, and at some points there were evidences of hemorrhage. In the course of a few days the swelling and hemorrhage disappeared under a continuance of the inhalations.

In both of these cases the hemorrhage was due to the severe spells of coughing which occurred. The same result is not unfrequently seen in the eye after severe vomiting, which may give rise to effusion of blood beneath the sclerotic portion of the conjunctiva.

W. A.

Catarrhal Ophthalmia in Spain.—Dr. F. G. Jimenez (*El Anfiteatro Anatomico Español*, Sept. 15, 1874), in an article on the "Use of Calabar Bean in Inflammations of the Cornea," says, "Inflammations of the different structures of the eye are very frequent in this part of the country, and a great number of persons are annually afflicted by catarrhal ophthalmia, but, fortunately, this is promptly subdued by the application of silver nitrate, so that we rarely see those chronic conditions and troublesome ulcerations which were before so common.

"Our treatment of keratitis is reduced to the use of calomel and opium in small doses (gr. ⅛), instillations of silver nitrate (gr. iv to f℥i aquæ) alternating with atropia sulphate (gr. i to f℥i aquæ), with mercurial inunctions and derivatives to the intestinal canal."

He relates a case of keratitis complicated with iritis, in which it seems to have been the practice to use the calabar-extract to shut out the light by contracting the pupil, and also to prevent adhesions between the iris and adjacent structures. Having, besides, the indications which he quotes from Trousseau of "painful sensation, congestion of the conjunctivæ, and supraorbital neuralgia," he applied the extract, but abandoned it after a few applications, on account of the irritation which it produced, and cured his case with atropia and antiphlogistics. He continues: "I have applied the calabar according to the phenomena which Trousseau has mentioned, and what good has it done? I believe that it has been very prejudicial. The free use of atropia has been generally sufficient to prevent adhesions, as well as to tear away those formed before coming under treatment. I have never been mortified by a failure; it has always responded to my hopes. In a case of hernia of the iris surrounded by the lymph of the cornea, the result of an ulcer, the treatment consisted in the application of the calabar-extract until the pupil was contracted and the iris was liberated, and a most happy issue was obtained. In these cases, and only these, do I believe the medicament indicated, and then the formation of the hernia must have been very recent. This treatment, then, is one which is rational, and which theory may approve and practice sanction." W. H. W.

Case of General Atrophy of the Skeleton (reported by Dr. D. P. Gonzalez de Velasco: *Ibid.*, Sept. 15, 1874).—A woman æt. 21 years, of lymphatic temperament, in a condition of the most complete marasmus and emaciation, who appeared to have no other anatomical elements in her economy than skin and bones, and who had suffered various exsections of the bones of the upper extremities, which were thought to be carious, presented herself one day at the Clinic of the Faculty of Medicine of Madrid, in order to have an operation upon the larynx, which was supposed to be diseased in a like manner.

She was sent to the General Hospital, where she soon after died. A very careful and minute autopsy was made, and it was found that the elbow-articulations and the lower half of the left ulna were absent, probably from not having been reproduced after excision; the atlas had been dislocated from the axis, the cruciform, transverse, and articular ligaments had been ruptured, and the two bones were anchylosed firmly together from the odontoid process around the posterior arches; the atlas being in an oblique position to the axis and compressing the medulla spinalis. W. H. W.

Injection of Alcohol in Hydrocele (*Ibid.*, Sept. 15, 1874).—Dr. Surmay reports another case of voluminous hydrocele cured by the injection of alcohol. After puncturing the tunica vaginalis and letting out more than a litre of fluid, he injected ten grammes of strong alcohol at the temperature of 36° C. into the cavity, and let it remain. In twenty cases treated by this method he obtained eighteen cures, with only one injection for each. The remaining two cases were cured by the second operation. W. H. W.

THERAPEUTIC NOTES.

Local Application in Vegetations.—M. Duchaussoy uses a powder similar to the following in the affection sometimes known as "venereal warts:"

℞ Pulv. sabinæ,
Pulv. aluminis, āā ℥ss;
Pulv. hydrarg. chlor. corros., ℥ss.—M.

Under the use of this powder the vegetations, even when quite large, decrease rapidly in size until they can be attacked with the knife.

Oxide of Zinc in Diarrhœa.—The following formula is recommended in mild cases of enteric disturbance:

℞ Zinci oxid., ℥iiss;
Sodæ bicarb., ℥ss.—M.

Div. in chart. no. xii.
Sig.—One every second hour.

In Hemicrania.—

℞ Quiniæ sulph.,
Acid. tannic., āā gr. xii;
Aconitiæ, gr. ¼.—M.

Ft. in pil. no. xv.
One to be taken daily, or oftener if necessary.

Calomel Ointment for Chancres.—M. Mauriac, at the Hôpital du Midi, Paris, uses in cases of infecting chancre the following dressing:

℞ Hydrarg. chlor. mit., ℥ii;
Cerat. simplicis, ℥i.—M.

If the chancre is inflamed, a few grains of extract of opium may be added.

Use of Codeine in Boulimia.—Dr. Emminghaus has used codeine with success, in the dose of one-tenth of a grain three times a day, in diabetes complicated by boulimia. The latter symptom, after four days' treatment, entirely disappeared.

PHILADELPHIA
MEDICAL TIMES.
A WEEKLY JOURNAL OF
MEDICAL AND SURGICAL SCIENCE.

The Philadelphia Medical Times is an independent journal, devoted to no ends or interests whatever but those common to all who cultivate the science of medicine. Its columns are open to all those who wish to express their views on any subject coming within its legitimate sphere.

We invite contributions, reports of cases, notes and queries, medical news, and whatever may tend to increase the value of our pages.

All communications must bear the name of the sender (whether the name is to be published or not), and should be addressed to Editor Philadelphia Medical Times, care of the Publishers.

PUBLISHED EVERY SATURDAY BY
J. B. LIPPINCOTT & CO.,
715 and 717 Market St., Philadelphia, and 25 Bond St., New York.

SATURDAY, NOVEMBER 21, 1874.

EDITORIAL.

ONE BATTLE WON.

A LITTLE over a year ago, when the *Philadelphia Medical Times* first began its onslaught upon the Philadelphia Hospital, nothing seemed more unlikely than that any impression should be made upon the flinty hardness of those abuses which had slowly crystallized during a quarter of a century. Many were the complaints that came to our editorial sanctum,—complaints whose burden was that the *Times* was simply laying bare to the gaze of the world the plague-spots of our community, and that no real good, but only ill repute, could come out of such procedure; or, in other words, that the *Times* was needlessly and uselessly disgracing our city. Unmindful of censure, we have continued the course first marked out; but it is with a feeling of real thankfulness that we to-day inform our readers that the contest is essentially over,—that the Board of Guardians have not only practically acknowledged the need of all the reforms we have demanded, but have also set themselves earnestly at work to achieve results.

We do not desire to arrogate to ourselves in this matter, but we know that the various editorials alluded to have attracted much attention, and that they awakened a wide-spread suspicion that the Philadelphia Hospital was a disgrace to our city.

In any case, so that the desired reform be achieved and the misery be relieved, we have long since ceased caring who gets the credit. We would, indeed, not have mentioned the connection of this journal with the subject, had it not been for the fact that some of our editorials upon the medical schools of this country have given rise to angry comments precisely similar to those we have heard so often before. "You are simply ruining us abroad, and you won't do any good at home," said a venerable, but not well-pleased, professor, a few days ago; whilst others have taken up with great inward satisfaction the cry of "Ishmaelite," a name which can have no true application except in the fact that the editors of the *Times* are ready to attack any abuse within their province, no matter what interests are at stake, and no matter how smoothly age and respectability may have stuccoed over the rottenness.

In the United States public opinion is omnipotent, and the people for the most part honestly desire to do what is right in matters of public interest. To convince the people that any existing custom or institution is a curse instead of a blessing, or is even essentially unjust and wrong, is to make the great step towards reformation. We have the profoundest faith that at some not far-distant day, when the system of medical education now in vogue has been long enough in the pillory, its present supporters will be the loudest in asserting, "We always have been advocates of reform."

As a warning answer to those who now misuse that good old proverb about fouling one's own nest, and not betrayed by any spirit of self-gratulation, have we been led into these words of self-defence. We trust our readers will pardon our occupying that space which might perhaps have been better employed in discussing details of the proposed changes which will undoubtedly be hastened by the recent long-predicted but most opportune murder.

We use the expression "most opportune murder" advisedly. It has long been predicted that crowding lunatics at night into small apartments without attendants would eventually lead to such fatal result as has recently happened,—one lunatic murdering another without let or hindrance; murdering him opportunely, because it is better that one should die than many,—better that a single outbreak of violence should put an end to the steady conversion of curable into incurable insanity, the steady destruction of all the remaining glimpses of reason and of all the sense of decency in the partially insane, the slow crowd-poisoning and crowd-torturing of the hopelessly crazy, the gradual obliteration of everything human, and the *pari passu* development of everything brutal—all of which are the present daily routine in the Insane Department of the Philadelphia Hospital.

CORRESPONDENCE.

To the Editor of the Philadelphia Medical Times:

AFTER hearing Dr. Gross's address before the Public Health Association the other night, I asked myself, "Are general hospitals, as heretofore and as at present constituted, pest-houses and abominations, the direful spring of woes unnumbered, or are they blessings?" The next day I searched for, and found in my office, the last two annual reports of the Board of Managers of the Pennsylvania Hospital to its Contributors, and, taking that of 1873, I made some approximative statistics. On showing them, however, to some of my friends, Dr. Ashhurst very properly said that they would not do to use before the Association, as they could be picked to pieces for want of definiteness. This statistical business takes time, Mr. Editor; but Dr. Woodbury, of the hospital, was so kind as to go over the record for me, and the results were still more surprising to me than my rough estimates. I did not get the paper until the third afternoon of the meeting. The session was fully occupied with other business, and I left the statement with my friend Dr. Le Conte, who said he would get it in if possible. It was simply an unvarnished summary of the mortality of the Pennsylvania Hospital for the year 1873. The year was not selected. I had intended to go over the last two years, but time prevented, and the work was great. It is often, however, a subject of remark how much one year is like another; and when we have the fact that the yearly mortality of the hospital from its very beginning ranges from eight and a half to ten per cent., I think nothing is wanting to establish my statements.

See, then, Mr. Editor, the record of the oldest "pest-house" in America (now well advanced in its second century) for the year 1873:

Summary of an Analysis of the Surgical Mortality of the Pennsylvania Hospital for the year 1872-3:

Whole number in house, 2155; of whom there died 172, or 8.59 per cent.
Of these cases, 1387 were surgical, and 768 medical.

The whole number of surgical deaths was		90
Of these, there died within twenty-four hours, that is, *were killed* by the accident for which they were brought to the hospital	35	
There died in 2 days	7	
" " 3 "	4	
" " 4 "	1	
" " 5 "	2	
Of troubles essentially fatal, as spine- and brain-injuries, burns, wounds, etc., there died in periods from 6 to 93 days	9	
There died of cancer	3	
" " tetanus	2	
Cases fatal in themselves, in or out of hospital		63
Leaving a mortality of		27

to account for, of whom 4 are put down to pyæmia. The others were made up of very severe cases, such as compound fractures, exhaustive suppurative troubles, necrosis, etc., etc., and it is certainly fair to presume from the social status of most of them that their lives were prolonged and their sufferings were ameliorated as well within as without a hospital.

Query: How many died of hospitalism?

Now, Mr. Editor, think of it: all will certainly agree that the thirty-five one-day cases should be eliminated altogether from the consideration of the mortality. The hospital, as a hospital, had nothing to do with the death of the remainder of the sixty-three, and as for the twenty-seven, there was enough to kill them in themselves, without going to hospitalism to account for it, except, may-be, the four pyæmia cases. I question whether in thirteen hundred and eighty-seven surgical cases, mostly very serious, in private practice, four cases of pyæmia would not occur; and I am very certain of it, if the thirteen hundred and eighty-seven had been treated in the places where they lived. Think of the material that this hospital gets within its walls,—that, ranging from the essentially fatal ones, we have to treat those of all grades of severity,—and you have a full justification of your statement made a short time since, that, for its size, it is one of the most active hospitals in the world. No one is more surprised at the record than I am myself.

I wish to write a readable article, not burdened with statistics, but remember, I have the records of all, and I enclose you the list of the forty-nine who died during the first five days, if you choose to use it, to give some idea of the nature of injuries we have to deal with outside of this fatal line. As I have sometimes expressed it, the work we have to do on some black days is truly appalling. The list is as follows:

1, compound fracture of skull, 5 days in hospital; 2, burn, 1 day; 3, burn, 2 days; 4, burn, 1 day; 5, compound fracture of both femurs, 5 hours; 6, fracture of spine, 1 day; 7, contusions of trunk, etc., 1 day; 8, burn, 1 day; 9, cut throat, 2 days; 10, compound fracture of humerus, 1 day; 11, laceration of legs, 1 day; 12, contusions of body, 1 day; 13, fracture of spine, 1 day; 14, lacerations of legs, 1 day; 15, fracture of scapula and contusions, 1 day; 16, fracture of ribs and legs, 1 day; 17, compound fracture of both legs, 1 day; 18, contusions of trunk, 1 day; 19, gunshot wound of chest, 4 days; 20, tetanus, 1 day; 21, fracture of skull, 1 day; 22, fracture of clavicle and ulna, and contusion, 2 days; 23, concussion of brain, 2 days; 24, lacerations and contusions, 3 days; 25, rupture of urethra, 3 days; 26, fracture of spine, 1 day; 27, compound fracture of both legs, 1 day; 28, compound fracture of thigh, foot, and arm, 2 days; 29, burn, 1 day; 30, contusion of head, 1 day; 31, compound fracture of leg, 1 day; 32, laceration of head, 2 days; 33, compression of brain, 1 day; 34, compound fracture of humerus, 1 day; 35, fracture of skull, 5 days; 36, compound comminuted fracture of femur, 1 day; 37, gangrene of leg from ulcer, 3 days; 38, burn, 2 days; 39, compound comminuted fracture of femur, 1 day; 40, compound comminuted fracture of femur, 1 day; 41, burn, 1 day; 42, fracture of pelvis, 1 day; 43, compound fracture of leg, 1 day; 44, fracture of skull, 1 day; 45, burn, 1 day; 46, burn, 1 day; 47, strangulated hernia, 1 day; 48, fracture of leg, Bright's disease, serous apoplexy, 3 days; 49, compound fracture of both arms, 1 day.

I wish to be exact, also, and must state that in the

printed report there are ninety-four surgical deaths. Dr. Woodbury did not make up this statement, and could only find ninety on the books. This may arise from the former clerk including other days, or it may be an error. However, I will, if you choose, let the four go with the twenty-seven, and our record will not suffer much. Again, the report is not from January to January, but is from April 27, 1872, to April 26, 1873; but I have called it the 1873 report, as being read in that year.

So much for specific details. I cannot help thinking that this matter of hospitalism has been very much overstated of late. That there are preventable causes of mortality in almost all general hospitals, I have no doubt. That a *well-managed hospital*, of whatever construction, necessarily contains elements of fatality in the material of that construction or in its form, I very much question.

I am in favor of the study of construction and management in all directions, in order to obtain the best results; but I protest against high authorities giving the weight of their influence in such a way as to favor popular prejudice against what, so far at least, are among the best institutions of the land. If what some say in regard to these institutions is true, every willing hand should withhold his contribution, and every bequest or legacy now standing in a last testament should be revoked.

The ideas that a layman would get of hospitals from hearing and reading about hospitalism are, it appears to me, very analogous to the notions he would get of insane-hospitals through the authority of Reade's "Very Hard Cash."

Imagine a dictator, say, of the United States. Heretofore not having paid any attention to the subject, he by accident reads the famous novel. In righteous wrath he rises and issues a decree to free the inmates of all the insane-hospitals, to burn the buildings to the ground, and to hang all the Kirkbrides and Rays in his empire. And he would be right, if the novel were true; but it is not. Who that thinks about it does not know that if there is one thing that proves there is an advance in culture—one thing that proves there is, after all, humanity in man—it is to be found in the present treatment of the insane as contrasted with that of bygone years?

The layman's opinion of a hospital is very much influenced by what he may happen to see or experience on a given visit.

Let him be one of a committee, for example, going through the wards when there happen to be no very offensive cases. He will be delighted, and will report everything lovely in that institution. But in a short time another committee reports that a certain ward is very foul, and that the institution is badly managed. Our friend is surprised; but if he inquires he will find that a bad burnt case, or one of traumatic gangrene, has come in since he last went through, and in spite of everything it will make some smell. It can't be helped. Some of my friends will smile at my bringing in here my favorite illustration. We all know that a dead horse in an open field, with all the winds of heaven blowing about it, will contaminate the air for a certain distance in spite of the *perfect ventilation*, and make it unbearable for any ordinary human being.

Now, what is a case of gangrene, or one of bad burn, in so far as the sloughing dead parts are concerned, but a mass of carrion, the same as portions, as it were, of the dead horse?

If, then, by our arts we can make the emanations from such cases reasonably bearable, so as to be able to administer to the needs of the poor sufferers, should we not be pleased at our efforts, while we study to make them still more perfect? Don't have such cases, you say, in the wards. That is just one of the questions. They must be somewhere. If we crowd them together, most or all of them will die, and may-be their attendants also. We must remember that, with the exception of the dead parts they are trying to get rid of, they are living bodies with immortal souls. Therefore some of us approve of scattering them; and I have no doubt this plan gives the best results. I do not like the idea of a special ward for such cases in the main building, for in time it will become a pest-ward indeed. For this class of cases, on account of the general comfort, I should advocate an out-ward for temporary purposes *until the sloughing stage is over;* then I would remove them and distribute them in the main wards.

Many cases of sickness and death are put down to hospitalism, that are really cases by direct exposure or contact, and the hospital, as a hospital, has nothing to do with them whatever. In the first volume of the Pennsylvania Hospital Reports I give an account of how I myself have been poisoned three several times by the inhalation of noxious gases from human beings. The first was through a post-mortem case; the second, one of private practice; and the third only, a hospital-patient. Here, I was thoughtless of myself. Here, I experienced to the full that it is not that which goeth into a man, but that which cometh out, that defileth. My knife went into a huge gangrenous abscess, and out rushed the most terrible gas that it has ever been my lot to encounter. That cost me many weeks of sickness; but what had the hospital to do with it? Why, that man would have poisoned me if I had stuck him in the Tip Top House of Mount Washington, with all the windows open; and Old Probabilities would have been struck dead on the spot.

I do not intend to enter upon the endless subject of construction; of its great importance there is no doubt. Much is to be said on all sides; and, with thorough attention to a few radical principles, the purposes for which any given institution is wanted, and the space and funds that it has to carry out its object, will regulate the structure.

Miss Lees, when she was here, is said to have made the remark that she was astonished that we seemed to have thrown away all the lessons of the war. I think she is mistaken, and that it is not absolutely necessary to have a wooden pavilion in which to carry out those

lessons, but that all of us who had anything to do with those days have learned to treasure our experience and also to apply it.

I hope, Mr. Editor, I have been fully understood. I by no means claim perfection for the Pennsylvania Hospital, for in it I know we have much to attain. But when we consider the nature of the cases that come into it, and the fact, I believe, that an annual mortality of two per cent. is considered as indicative of a healthy condition of a large community like our city, what has so-called *hospitalism* to claim in the institution under consideration, when, excluding the thirty-five killed outright on the first day of their casualty, and yet honestly put into the table, we can sum up a mortality of but 4.8 per cent. for the remainder?

The hospitalism that inculcates strict attention to every detail of administration I believe in. The hospitalism that incites popular prejudice against magnificent charities, and that sees pestilence in the structure, from the chimney-pot to the foundation-stone, I utterly condemn; believing that what is wanting is less hospital on the brain and more brains in hospital.

Aix-les-Bains, October 14, 1874.

To the Editor of the Philadelphia Medical Times:

DEAR SIR,—I have not yet heard whether it is proposed to hold an International Medical Congress at Philadelphia in 1876. The occasion would be a very favorable one, and if it should be decided to take advantage of it, it would be in conformity with the wish expressed by the physicians who attended the Congress at Florence, that in future there should always be a reunion of the medical world in every city where an international exposition should be held. During this Congress the United States were represented by Dr. Pinckney, of Boston, but he had, perhaps, quitted Florence before this wish was expressed. If it should be deemed advisable to hold this International Medical Convention, it is now time to decide upon the list of questions which shall be introduced for discussion, and to make them known throughout Europe by means of the medical journals. At the Congress in Florence, in 1869, there were two meetings each day, morning and evening. In the morning those subjects only were discussed that were indicated on the printed list; in the evening, opportunity was given to introduce any new question that any one desired.

If I might be permitted to make a suggestion, I would ask that the question should be discussed which has never yet received a satisfactory solution,—viz., that of the origin of fermentation.

1. Do the germs of fermentation exist exclusively in the air?

2. Do they not exist in the organism of human beings? and, if so, are they brought there by the air, or engendered by the vital forces?

3. Are the germs of fermentation engendered spontaneously?

Accept, sir, for yourself and for the faculty, the expression of regard and esteem with which I remain

Yours truly,

C. Macé,

Physician at the Baths of Aix and Marlioz in Savoy.

PROCEEDINGS OF SOCIETIES.

AMERICAN PUBLIC HEALTH ASSOCIATION—THIRD ANNUAL MEETING.

First Day, Tuesday, November 10, 1874.

THE Association was called to order about noon. Upon taking the chair, the President, Dr. Stephen Smith, of New York, made an address, briefly reviewing the progress of sanitary studies, investigations, and administrations during the past year. He alluded to the labors of the Executive Committee of the Association in preparing the various papers read at the last annual meeting, the result of which was before the Association in the shape of a volume which, in literary and scientific merit and in typographical execution, has no superior in sanitary literature. The President went on to allude to the various epidemics prevalent in different parts of the world during the past year, which had, on the whole, been an exceptionally healthy one. He regretted that the United States Government had not been represented at the recent very important meeting of the International Sanitary Conference at Vienna. The progress of sanitary organization in the United States has not, during the past year, been satisfactory, Maryland being the only State that has organized a State Board of Health, which is the seventh now in existence. In New Jersey, a Commission of Health has been appointed to report upon general sanitary questions. There are now two hundred local boards of health in the United States, and in these it is evident that there has been an improvement in membership,—the medical element having become stronger. The effort made at the last session of Congress to obtain sanitary legislation resulted in such a manifestation of interest as to give rise to the hope that at no distant day such co-operation on the part of the general government might be secured as would lead to the perfection of sanitary organizations for defence against foreign epidemics, or the control or suppression of domestic pestilences which have a national character and importance.

An address of welcome was then pronounced by Prof. Henry Hartshorne.

At the close of this address, Prof. Hartshorne proceeded to read a carefully-prepared paper on "*Excessive Infant Mortality in Cities.*"

Among those born with a normal constitution and under entirely favorable circumstances, the mortality during infancy and childhood ought to be less than at any other period of life. Yet the reverse is the case in many localities, most notably in large cities. In France, according to Bouchet, one-sixth of all born die during the first year of life; in Sweden and Finland, one-fifth; in Prussia (Berlin), one-third. Nor is the proportion very much less in some parts of England and in this country. Looking back through considerable periods, we find that in 1810, in New York, one-half of all the deaths took place in persons twenty-four years old or upwards; in 1857, one-half the deaths were of children not more than two years old. In Philadelphia, in 1807, half the deaths occurred after twenty-four

years of age; in 1856, one-half were of children less than four years old. These last figures show an *increase* of mortality, relatively, at least, among children.

Dr. Farre has shown that in London it has been otherwise. The mortality of that city, which, about the middle of the eighteenth century, stood at seventy-five per cent. of children under five years of age, had fallen at the beginning of the nineteenth century to fifty per cent., and now about twenty per cent. die during the same period. The rate has been declining a little during the past few years in New York and Philadelphia.

The causes of excessive infant mortality may be comprehended under two heads: *ante-natal* and *post-natal*. Under the former head may be included constitutional defects in parents, resulting chiefly from alcoholism, syphilis, scrofulosis, debility from overwork and underfeeding in the poorer classes; in those more prosperous, excess of nervous temperament and deficient organic development in women who become mothers. As regards the latter point, it might be safer to include men as well as women. Both run to brains and nerve too much in this country.

Post-natal causes of infant mortality differ in different climates. Northern cities lose many infants in the winter by pneumonia, capillary bronchitis, and croup, under the exposure to cold so often connected with poverty and neglect. Dr. Farre has shown that in London the degree to which the thermometer descends in December, January, or February, determines, to a great extent, the mortality of the winter.

Sir Thomas Watson asserts the mortality in England to be always larger in winter than in summer, unless under the influence of occasional epidemics. This last observation will not hold true of our large cities in this country. Nothing in our mortuary statistics in Philadelphia and New York is more constant than the proportion between the number of deaths among young children and the excess of the daily temperature above 95° Fahr. in the shade; indeed, we might safely say above 90°.

Along with this positive cause of disease taking effect most severely upon the infant population, must be apprehended and remembered also the action of impurity of atmosphere. The great importance of this latter as a factor in the mortality of infants in large cities has been fully recognized in times past. There seems to be some ground for fear that it may be at the present time too little borne in mind under the almost overshadowing attention given to another factor, itself truly of great consequence,—bad feeding of children.

Errors in infantile diet may be considered as they occur: first, when the child is suckled in part or altogether by the mother or a substitute; and second, when it is fed entirely by hand or with the bottle. The evils of neglect, early weaning, or abandonment on the part of the mother, are exemplified in the practice of baby-farming as carried out in France and elsewhere, and in a more intensified form in the frightful mortality of foundling-hospitals.

Dr. Hartshorne went on to speak at some length upon the varieties of food suitable for infants, and the care necessary in preparing it, and alluded in terms of praise to the pamphlet of directions published by the Philadelphia Obstetrical Society a year or so ago.

The diseases especially destructive to young children are, in the great cities of the Northern United States, cholera infantum, smallpox,—where vaccination has been neglected,—cerebro-nervous disorders, with convulsions, pulmonary inflammation, croup, diphtheria,—when the latter is epidemic,—cerebro-spinal meningitis,—when it is locally prevalent,—and scrofulous marasmus.

Now, what can be done to lessen this truly frightful array of influences hostile to infantile life and health?

To meet ante-natal deleterious causes connected with parentage, we must look chiefly to popular education, moral reform, and sanitary police. Against post-natal causes of infantile mortality similar measures will be of great importance: children's excursions in hot weather as at present practised, and, perhaps above all, the provision of summer-camps outside of large cities, for mothers with young infants.

Not only would the direct rescue of a large number of infants—perhaps five hundred in this city—be accomplished, but such camps would also be training-schools in healthy living to all who occupied them, the effects of which might last long afterwards. Moreover, by the removal of a part of their population, the worst quarters of the cities so relieved might be open to inspection and effectual permanent compulsory sanitation. So the tenement-houses of New York, in which half of the population of that city are born, and of whom probably half die in their first year, and the Alaska Street shanties of Philadelphia, might be and ought to be abolished, and in their place might grow up homes for working-men in which children might not only be born, but live as well.

Dr. J. R. Black, of Newark, Ohio, then read a paper "*On the Influence of Hereditary Defects upon the Health of the People, with suggestions in regard to Prevention and Eradication.*" He remarked that the prevalent idea among many worthy people, that afflictions and sickness are brought on by some higher power, resulted in hospitals and asylums for the *cure* of disease, while all purely mundane efforts to prevent its causation were neglected and scarcely considered obligatory in a public or personal sense.

After alluding to the gradual development of hereditary tendency to disease into disease itself, and the resultant transmission of the same, the speaker went on to state that of late the achievements of science have actually tended to produce an increase in the number of physically degenerate men and women by interfering with the natural law of the "survival of the fittest."

In conclusion, Dr. Black's suggestions in regard to prevention and eradication would include proper attention on the part of the general public to the conditions of good health.

Avoidance of impure air, of confinement to dark and especially damp rooms, and of improper clothing and food, with the regulation of marriage, were to be recommended. In fine, precisely that which prevents sickness will also prevent the stamping of an inherent defect upon the organism.

At the conclusion of Dr. Black's paper, Dr. J. G. Richardson, of Philadelphia, read a short extract from a lecture delivered by him at the University of Pennsylvania three years ago, in which, while speaking on this subject, he had alluded to the probable existence of a law the opposite of the "survival of the fittest," which he had at that time formulated as the extinction of the unfit. After some remarks by the Rev. Dr. Osgood, of New York, on the moral aspects of the subject, an abstract of a paper by Dr. Edward H. Janes, of New York, "*On the Health of Tenement-Populations, and the Sanitary Requirements of their Dwellings,*" was read by the secretary. The Association then adjourned until 3.30 P.M.

At the afternoon session, a paper was read by Dr. H. B. Baker, Secretary of the State Board of Health of Michigan, entitled "*A Report upon the Death-Rate of each Sex in Michigan; and Comparison with Dr. Farre's Life-Tables of Healthy Districts of England.*" This paper was illustrated by means of carefully-prepared diagrams, and accompanied by various statistics. The relative mortality of the different sexes was shown to

be about the same at all ages, no climateric influence showing itself in females. A comparison of deaths per 1000 of population in England and Michigan showed the percentage about the same up to the eightieth year, subsequent to which the difference was in favor of the latter.

Dr. I. S. Billings, Assistant-Surgeon U. S. Army, then read a paper entitled "*Notes upon Hospital Location and Construction.*"

After alluding to the various reasons which led to the erection of hospitals, political, social, etc., the speaker went on to say that experience has shown that large and costly hospitals. even on the pavilion plan, are not necessarily free from the evils indicated by the word "hospitalism;" and a practical trial in our late war, repeated and confirmed more recently in Europe, has led to the recommendation that hospitals should be temporary wooden structures, intended to last but ten or twelve years. The good results obtained in our large military hospitals were not alone due to their temporary character, for the morbific element due to length of occupation did not have time to develop in them. They were better located than civil hospitals, being in the country, where there was plenty of room and fresh air. The class of patients was better, the control over them more efficient, and they were more readily classified, than in civil life, thus lessening the evil of placing a number of men in one room with different diseases and wants.

When cases of zymotic disease occurred, tents were largely used; and the more they were employed the better the result. In an economical point of view it is evident that if one-half the money required for brick or stone structures was used to erect plain balloon-frame wooden buildings, and the other half were invested at ordinary rates of interest, at the end of about twelve years the amount of money on hand would be what it was in the beginning, and the old buildings could be removed and the process repeated, thus giving a new hospital every twelve years. The necessary buildings for the cure of two hundred patients should be constructed for about $50,000. The smaller the number of patients, the greater the cost per bed. Our large metropolitan hospitals usually are, and should be, connected with medical schools, and on account of accessibility it is generally considered necessary to place them in or very near the city, where space is limited and costly. Dr. Billings doubts very much whether this supposed necessity exists, and whether it would not be possible to place hospitals five or ten miles away from the city, where they could have ample space, and place the medical colleges with them.

Many special advantages pertain to floating hospitals, a class of structure of which more use should be made.

Such hospitals might be constructed on flat-bottomed boats radiating from a central triangle or polygon, any one of which might be detached and floated off if at any time there was such a necessity.

Such a hospital could be most conveniently arranged for three hundred beds or less, and, where space can be more conveniently obtained on water than on land, would serve an excellent purpose; but the temporary character of the structure must be insisted upon.

When, from the necessities of the case, a hospital must be built in the city, brick may be used. The laundry should be located at the top of the administration building, by which means an important aid to ventilation would be gained in the sources of heat which must constantly be connected with this portion of the establishment. This arrangement has been adopted in one of the recently-built army hospitals.

The materials which should constitute the inner walls are of the utmost importance. The plaster with which they are frequently lined is not of as good a character or as hard a finish as is desirable. They should be cleansed, not by washing, but by burning, which may easily be accomplished by the use of a large smokeless flame. Twice a year plastered walls should be thoroughly scraped, and the plaster should be entirely removed at least every ten years. In certain army hospitals whitewashed canvas has been successfully made use of as a lining to the wards; of course this can be removed and renewed at pleasure. Cases of erysipelas should never be allowed in the wards of a large municipal hospital, but should be assigned entirely separate and distinct quarters. Puerperal cases should be treated in cottage-hospitals, or by some similar plan.

As regards ventilation, Dr. Billings considered fireplaces as useful auxiliaries, but hot air as better for general use. Of course, the best plan for changing the atmosphere of an apartment rapidly is to have the floor riddled with minute holes, through which the fresh air, warmed when necessary, may be introduced: in a hospital, however, this is impracticable.

It cannot be expected that the air of a ward can be made fresh by any means; the object is to dilute the foul air to the highest degree possible. Water-closets should be ventilated from below, and their ventilation, as well as that of bath-rooms, should be entirely separate from that of the wards.

Hundreds of books have been written on hospital management, and the subject has been considered from every possible point of view excepting that of the patient. As wards are at present arranged, there is absolutely no privacy. There is also too much light for many cases; we have but to put ourselves in the position of the patient a moment, to see how trying this must frequently prove.

There is, besides, too much sameness in temperature and moisture: a temperature which is exceedingly grateful in one case must be very trying in another. There should be smaller rooms and more privacy, if possible.

In the model hospital of the future, one-, two-, and three-bed wards will be used, except for the convalescent. Special beds will be provided, having funnels suspended over them; in such a bed the patient is entirely isolated, and even where profuse suppuration or gangrene is present the surrounding air will remain uncontaminated by any odor. Above all, however, good superintendence is necessary.

Dr. William Pepper, of Philadelphia, followed with a paper "*On the Sanitary Relations of Hospitals.*"

After some remarks on the late Sir James Y. Simpson's views on what he denominated "hospitalism," Dr. Pepper went on to allude to the present drift of opinion in favor of barrack-hospitals. After referring to the frightful mortality which has been observed in many large hospitals, owing in great part to the prevalence of such diseases as pyæmia, he stated it to be his belief that this result depended not essentially upon the mere fact that the hospital was a large, permanent structure, but upon the existence of remediable faults in construction or of abuses in administration. The arguments which have been adduced had failed to convince him of the propriety of tearing down many of the large "palatial" hospitals in existence, or of avoiding the construction of similar structures in the future, but had only shown the necessity of remedying certain defects of construction and of sternly repressing certain abuses of administration.

Among these abuses may be mentioned overcrowding of patients, or placing too many wards on a limited area of ground. In connection with this subject, the case of the Norwich (Eng.) Hospital may be mentioned. This hospital, up to the year 1862, maintained a high reputation, in support of which it may be mentioned that its records up to that period showed a percentage of cures

in the operation for stone almost unprecedented; the proportion of fatal cases in a long series being but one to eight and a half. In one series of forty cases, no death had occurred.

But since 1862 this hospital has been overcrowded. During the ten years from 1854 to 1863, 2200 cases were treated, while during the subsequent decade from 1864 to 1873 3800 of the same classes of patients, including cases of burns, fractures, and surgical cases generally, were treated. Mark the result. A frightful increase in the mortality took place; the institution, which had been celebrated for its success in the operation for stone, now showed a rise in the proportion of fatal cases from one to nearly nine up to one to seven.

The conclusion to be drawn is evidently that so long as the number of patients in the hospital was kept within the proper limits all was well, and that overcrowding alone brought about this lamentable result.

But the avoidance of overcrowding is not all that is necessary; certain wards should always remain closed and in reserve, only to be occupied when the other wards are not in use. A well-built hospital of permanent construction can be purified or renovated thoroughly, and far more cheaply than a barrack-hospital can be destroyed and reconstructed. In the Pennsylvania Hospital it has been the custom, when pyæmia has appeared in any ward, that that ward should be thoroughly cleansed and vacated for months, and the result has been that on reopening it no pyæmia has appeared. In the medical wards of this hospital no epidemic has ever prevailed, with the exception of a mild form of facial erysipelas from time to time.

Dr. Pepper went on to give his views as to the proper method of keeping a large hospital healthy. Among other arrangements he suggested the use of isolated apartments or separate isolated barracks or tents of purely temporary character for cases of erysipelas, gangrene, extensive burns, and the like, as well as for patients affected with dysentery or one of the contagious fevers.

He also described the general plan and arrangement of the new Hospital of the University of Pennsylvania: a large structure built on the pavilion plan, with central administrative building and lateral pavilion connected by means of a corridor; in whose arrangements every care has been taken to avoid all the sources of difficulty observed in many large hospitals.

Continuing with the general subject of hospital management, the speaker said that it is the duty of every city to supply ample hospital accommodation, but, in consideration of the enormous sums required for their proper administration, the construction of the hospital should be with as strict a regard to economy as is consistent with efficiency.

Hospitals should not be too far from the centres of population, in order that the services of the best medical men should be secured. If placed at such a distance from the heart of a city as to secure the advantage of cheap land, it would be too far away to secure the gratuitous services of leading physicians, and a salaried medical superintendent or staff would have to be supplied, with results which are familiar.

If, on the other hand, a large hospital is built where land is dear, the plan of isolated temporary barracks can scarcely be made use of. Moreover, if barracks of a permanent character, of brick and stone, are erected, not only are they liable to become infected just as the wards of a larger permanent structure, but it may be doubted whether the cost of construction per bed would not be as great as in the latter case. If the greatly increased cost of a site, together with the great increase in the cost and difficulty of administration, be taken into consideration, the enormous practical difficulty of replacing the present hospital-accommodations of great cities, such as London, New York, or Philadelphia, by "iron, wood, or brick villages" becomes evident.

A further great advantage of a large hospital is the aid which it affords to the prosecution of clinical instruction: it is difficult to transport cases from the widely-separated wards of a building on the barrack plan.

It is a question of importance whether the bad results attributed to large hospitals are necessarily connected with the permanent plan. Unfortunately, there are no statistics in existence which can aid us in coming to a conclusion. What is wanted is a comparison between the results obtained in large well-constructed and well-administered hospitals in the centre of great cities and those furnished by barrack-hospitals in the same locality, receiving the same run of patients and employing the same modes of treatment. Until this point is established, it is certainly more rational to endeavor to remedy, as can be shown to be practicable, the defects of construction and administration of large hospitals, than to destroy public interest in their support by decrying them as slaughter-pens and curses to a community.

In conclusion, Dr. Pepper remarked that the physicians constituting the medical staff of a hospital are not the proper persons to regulate its sanitary condition. They are too much engrossed in the cases, and too prone, in their desire to extend the benefits of the institution as widely as possible, to admit more patients to the wards than should properly be received.

A hospital whose governing body should contain medical men of experience, entirely unconnected with the staff, in conjunction with a certain number of business-men, would offer the correct method of administration.

Dr. Pepper was followed by Mr. Carl Pfeiffer, F.A.I.A., of New York, who read a paper on "*Hospital Architecture, and the Perfect Ventilation of Hospital Wards.*

Subsequent to the reading of this paper, a conference of sanitary officers and others upon methods and experience in the public health service took place.

The subject was introduced by Dr. Le Conte, late of the United States Army, who read a paper on the organization of municipal boards of health. This subject was discussed by other members of the Association, after which a recess was taken until evening.

At 7.30 P.M. a meeting of a more general character was organized, with the Hon. Morton McMichael in the chair. After a few opening remarks by this gentleman in his usual felicitous vein, the Rev. Dr. Samuel Osgood was introduced, and delivered an eloquent discourse on "*The Relations of Health and the Higher Culture.*"

Prof. Samuel D. Gross then delivered an address upon "*The Factors of Disease, and Death after Injuries, Parturition, and Surgical Operations.*"

This discourse, which was of considerable length, was principally occupied with questions relating to the proper management both of hospitals and of individual cases.

Various methods of after-treatment adopted by distinguished surgeons of this country and Europe were commented upon, and the conclusion arrived at that the most important point was perfect cleanliness, the particular dressing employed in any given case being comparatively a matter of indifference.

In treating of hospitals, the speaker stated that in most of them the mortality was frightful. He referred, however, to the Episcopal Hospital and to the Hospital of the University as presenting better features than most institutions of the kind, and as being well planned.

No single ward of a hospital should contain more than six or eight beds; and no hospital should accommodate more than one hundred patients. In conclusion,

Dr. Gross referred to the necessity of erecting convalescent homes or hospitals, where patients who had passed the crisis of disease could recover their strength without danger of infection from persons affected by other diseases.

On motion, a vote of thanks was unanimously tendered to Rev. Dr. Osgood and Prof. Gross for the instruction they had afforded.

The Association then adjourned, to meet at 9 o'clock on Wednesday morning.

SELECTIONS.

"LEGUMINOSE."

IN the *Berliner Klinischer Wochenschrift*, No. 15, 1872, appeared an article by Prof. Dr. Beneke, of Marburg, "On a Substitute for Animal Food for Convalescents in various Diseases of the Stomach and Intestinal Canal, and for Poor Patients." H. Hartenstein was induced by the above article, and following the suggestions therein contained, to prepare for sale, under the name of "Leguminose," a powder for making soup, composed of a mixture of leguminous and cereal meal.

In an article in the *Berliner Klinischer Wochenschrift*, No. 22, 1874, Prof. Beneke expresses approval of the Leguminose as practically fulfilling every indication for which it is intended. It has been established beyond a doubt, by careful chemical analysis, that meals of all kinds contain a large amount of nourishing matter, pure leguminous meal being not far behind beef in this respect. Being freed from any shreds of cellulose, and reduced to the very finest state of subdivision, this preparation has been made of extremely easy digestion. In addition to its highly nutrient properties and easy digestibility, its great cheapness should not be left unmentioned, the cost being only fifteen groschen (thirty-four cents) per pound, which renders it very useful as a diet for the poorer classes. By the admixture of cereal meal, also very finely divided, the proportion of nitrogenous to non-nitrogenous matter is made to vary, in the four different mixtures now in the market, standing respectively as 1 : 2, 3 ; 1 : 3, 3 ; 1 : 3, 9 ; 1 : 4, 8, thus being equivalent, in order, to the proportions found in beef, milk, breast-milk, and the mixed food of adults. It is shown, by most careful analysis, that the different kinds of meal contain 10 to 12.7 per cent. of water, whereas beef contains nearly 75 per cent. and cow's milk 86 per cent. One pound of fine meal contains, therefore, three and one-half times more solid constituents than meat, and more than seven times as much as cow's milk.

The method of preparing the soup for use is to stir slowly a heaping tablespoonful of the powder in a soup-plate of water, and then boil thoroughly for half an hour and add salt. The taste is said to be agreeable when thus carefully prepared, though, should any taste of the raw peas or lentils remain behind, a little Liebig's extract of beef can be added. When this disagreeable taste cannot be got rid of, it is suggested by Dr. Beneke that the quality of water with which the soup was made may have something to do with it, and that if it is very hard a little soda should be added.

As the percentage of fat in these meals is small, the non-nitrogenous elements being mainly represented by amylum, it is recommended, when fat is particularly indicated, as in atrophied children, consumptives, and convalescents, to add to the prepared soup one to two teaspoonfuls of cream. When, for instance, the proportion of nitrogenous to non-nitrogenous matter desired is 1 : 3, 3, Dr. Beneke employs mixture 1 (1 : 2, 3), adding the cream as above.

With regard to the objection which naturally suggests itself, that leguminous articles of diet cause flatulency, no mention is made by those who have used it of any such trouble having been produced, and it probably only occurs when the peas or beans are prepared in the ordinary way.

After the second year, the system requires a small quantity of vegetable acid or of salts containing it. As leguminose contains none, when this is used exclusively the deficiency should be made up by giving lemonade, compote, fruit jelly, or wine containing it. When the stimulating effect of animal food is indicated, this can be obtained by the addition of Liebig's extract of beef, rich in creatinine and the salts of potash.

Dr. Beneke, in his endorsement of the merits of the above preparation, is supported by equally favorable reports from a large number of physicians of respectable standing in different parts of Germany who have used it as an article of diet for patients with impaired organs of digestion, for infants deprived of the breast, where cow's milk is not well tolerated in any form, for atrophied and scrofulous children, for convalescents from typhoid fever, and for consumptives; also during the acute stages of disease, as of acute rheumatism and of typhoid fever.

Should it be made easily obtainable in this country, at a relatively cheap price, the leguminose would certainly merit a trial at the hands of the profession, with prospects of proving a very superior article of diet for infants and for the sick-chamber.—*Boston Medical and Surgical Journal.*

GLEANINGS FROM OUR EXCHANGES.

THE BLISTER-TREATMENT OF RHEUMATISM.—Dr. T. R. Peacock has used the blister-treatment, introduced by Dr. Davies, for acute rheumatism since 1865. He has a high opinion of it when vigorously applied. The blisters are generally made two or three inches wide, and long enough to encircle the limb. When they have risen, they are dressed with linseed-meal poultices for several days. Usually, the patients do not complain of the blisters, nor is there any serious inconvenience from them; but as soon as the drawing is accomplished there is a marked amelioration in the swelling, pain, and constitutional disturbance. The cases most eligible for treatment by this means are those where several joints are involved and the suffering and constitutional disturbance great. Three to six blisters are applied at once near the affected joints; they are repeated as exacerbations occur, and are applied to joints as they are successively involved.

Dr. Peacock agrees with Dr. Davies that this treatment often curtails the length of the disease and prevents internal complications. He regards the blisters as less depressing than the alkalies and other constitutional medication, except tonics, which he often gives.—*The Doctor.*

PUNCTURE OF KNEE-JOINT IN HYDRARTHROSIS.—Dr. Dieulafoy (*Memorabilien*, October, 1874) mentions twenty-two cases of fluid in the joints which were treated by Desprès sixty-five times by aspiration with no evil results. Some of the cases were cured in less than a week with one or three punctures, others in less than a fortnight with four or six; some in three weeks with many punctures. Desprès thinks, however, that ordinary treatment is quite as good in most acute cases, whilst in chronic cases of fluid in the joints aspiration is of great service. Other surgeons mention deaths as occurring from puncture.—*The Doctor.*

PREVENTION OF SEA-SICKNESS IN SHORT PASSAGES (*The Lancet*, October 10, 1874).—Dr. J. Henry Bennett believes that it is an error for travellers to go on board ship with a stomach full of food, and thus give it several hours' work to perform at the very time when it is disturbed and annoyed by the tumultuous motions of the vessel. To avoid exhaustion, a good meal should be taken four or five hours previously, but the stomach should be absolutely empty at the time of embarking. One or two hours before, some very strong coffee should be taken without milk. Once on board, repose in the recumbent position should be enjoined, and nothing whatever, solid or fluid, should be taken for twelve hours or more,—even then very little. On this system, food and a stimulant are taken *before* the stomach is exposed to sympathetic irritation, and the general economy and the nervous system are thereby invigorated. As there is nothing in the stomach to digest, it remains quiescent under difficulty.

ERGOTIN-INJECTIONS IN PROLAPSUS ANI (*Medical Press and Circular*).—Von Langenbeck, of Berlin, announces that he has lately been treating prolapsus ani "with astonishing success" by hypodermic injections of a solution of ergotin (five and fifteen parts to one hundred of distilled water). He replaces the bowel, and, inserting the point of the syringe about three centimetres in depth in the cellular tissue, throws in from one to two grains of ergotin. This should be repeated every three or four days for three or four weeks, any hard fæcal masses in the bowels being first removed by simple injection.

CLAY EARTH AS A SURGICAL DRESSING (*Detroit Review*, October, 1874).—Dr. F. W. Godon gives a very favorable report of his experience in the use of the above dressing. Chronic ulcers intractable to all other modes of treatment healed rapidly under the application of dry earth. Open sores, wounds, etc., of great diversity, were successfully treated by the same. In burns and scalds he says that it most effectually and completely allays pain, produces cicatrization, controls inflammation, and prevents putrefaction.

CALABAR BEAN IN TETANUS (*The Medical Record*, October 15, 1874).—Philip S. Wales reports a case of traumatic tetanus unsuccessfully treated by Calabar bean. The patient died within two days after the onset of the disease.

MISCELLANY.

AN ORIGINAL INVOCATION.—When in 1837 the late Louis Agassiz pronounced his famous *Discours sur l'ancienne Extension des Glaciers*, at the Congress of the Swiss Society for Natural Sciences at Neufchâtel, he enunciated the theory that Switzerland was formerly entirely covered by a thick layer of ice,—a conclusion at which he, in common with other observers, had arrived in consequence of the striated and polished appearance of some of the rocks, and the evident removal of others. This was considered a frightful heresy; the whole assemblage was stupefied, until Leopold von Buch, one of the greatest geologists of the time, rose in much excitement, to denounce the new theory with unsparing severity. He was subsequently shown the striated surfaces near Neufchâtel, but still, not "convinced against his will," maintained that these appearances had been produced by students sliding over the rocks, and finished by retiring abruptly from the scene, ejaculating, "*O sancte De Saussure, ora pro nobis.*"—*London Medical Record.*

"WILL you help me out of this mud-hole?" asked one traveller, whose team was stuck in the mud, of another who was passing. "No, I can't stop," said the other. "I would take it as a great favor," said the man in trouble. "What are you loaded with?" asked the traveller. "Patent medicines," was the reply. "I guess I will try to help you out, then, as I am loaded with tombstones." They have been constant companions ever since.

A NEW mineral has been discovered in South Carolina, which, it is said, contains enough phosphorus to supply the whole world for a million years.

A NEW YORK man has christened his daughter Glycerin. He says it will be easy to prefix Nitro if her temper resembles her mother's.

ONE of the latest "charms" for watch-chains is a piece of lunar caustic, handsomely mounted. It is found useful in cauterizing dog-bites.

AN instance of like curing like is mentioned in the fact of brandy being a certain cure for "staggers."

WHY is it impossible to have the last word with a chemist? Because he always has a retort.

TWENTY-THREE men graduated at Dartmouth Medical College, Hanover, N.H., on Nov. 4.

A STOMACH-PUMP is calculated to make a man feel down in the mouth.

BALTIMORE is to invest fifty thousand dollars in a botanical garden.

NOTES AND QUERIES.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—I notice by a recent communication to the *Times* that Dr. Weir Mitchell is inquiring for cases of chorea in the negro. As resident physician in charge of the Hospital of the Colored Home of New York, during the winter of 1855-6, I saw a case of true chorea minor in a mulatto girl about fifteen years old, which terminated fatally; but during an entire year of service there I observed no instance of the disease in either form in a pure negro.

Yours very respectfully,

BENJAMIN LEE.

Philada., 1503 Spruce Street, Nov. 4, 1874.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY, FROM NOVEMBER 10 TO NOVEMBER 16, 1874, INCLUSIVE.

HASSON, A. B., SURGEON.—Granted leave of absence for twenty days. S. O. 224, Military Division of the Atlantic, Nov. 12, 1874.

HARTSUFF, A., ASSISTANT-SURGEON.—So much of S. O. 233, A. G. O., c. s., as relates to Assistant-Surgeon Hartsuff, is revoked. S. O. 244, A. G. O., Nov. 10, 1874.

WILSON, A. D., ASSISTANT-SURGEON.—To report in person to the President of the Army Medical Board, New York City, for examination for promotion, and, on its completion, to the Commanding General, Department of Arizona, for assignment to duty. S. O. 243, A. G. O., Nov. 9, 1874.